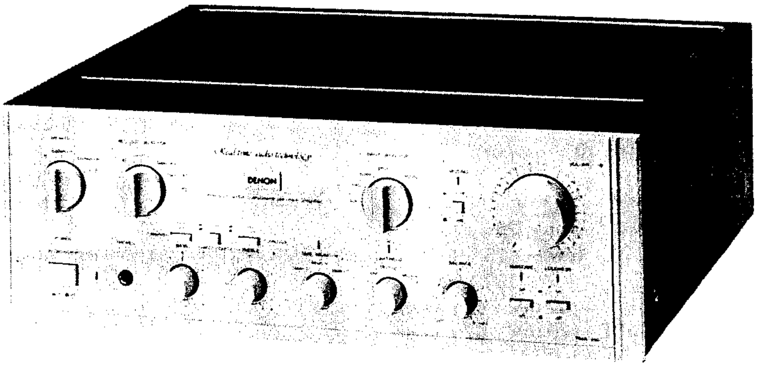
DENON

Hi-Fi Pre-Main Amplifier

For EUROPEAN MODEL

SERVICE MANUAL
MODEL PMA-960

SOLID STATE
PRE MAIN AMPLIFIER



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NIPPON COLUMBIA CO., LTD.

OCT. 1984

SPECIFICATIONS

POWER AMPLIFIER SECTION

Rated Output Power:	Both channel drives (TUNER → SP OUT) 20 Hz to 20 kHz 140 W + 140 W (8 ohm Load) 20 Hz to 20 kHz 170 W + 170 W (6 ohm Load) 1 kHz 100 W + 100 W (Load 6 ohm, IEC-65 temperature-controlled output)
Total Harmonic Distortion:	0.003% (20 Hz – 20 kHz at -3 dB rated output 8 ohm Load)
Intermodulation Distortion:	Below 7 kHz/60 Hz: 1/4 0.002% (at amplitude output equivalent to rate output 8 ohm Load)
Output Bandwidth:	5 Hz – 80 kHz (IHF T.H.D. 0.02% 8 ohm Load.)
Transmission Characteristics:	1 Hz – 250 kHz $^{+0}_{-3}$ dB (at 1 W output)
Input Sensitivity:	150 mV
Input Impedance:	47 k ohm
Output Impedance:	0.1 ohm (1 kHz)
Output Terminals:	Speaker: A or B Load 6 – 16 ohm A + B Load 12 – 16 ohm Headphone/Stereo headphone

EQUALIZER AMPLIFIER SECTION

Equalizer Amplifier Output:	Maximum Output: 14.5 V (at 47 k ohm Load) Rated Output: 150 mV Total harmonic distortion: less than 0.001% (at 1 kHz, 10 V output)

Input Sensitivity/ Input Impedance:

PHONO-1, 2	MM	2.5 mV	47 k ohm
	MC	high 250 μV, low 125 μV	100 ohm
TUNER		150 mV	47 k ohm
DAD, AUX, TAPE		150 mV	47 k ohm

RIAA Deviation:	PHONO-1, 2 MM-MC within ±0.2 dB (20 Hz – 100 kHz)

OVERALL CHARACTERISTICS

SN Ratio (IHFA Network):

PHONO-1, 2	MM	90 dB (input terminals short-circuited for 2.5 mV input)
	MC	75 dB (nput terminals short-circuited for 250 μV input)
TUNER, TAPE, DAD, AUX:		110 dB (input terminals short-circuited)

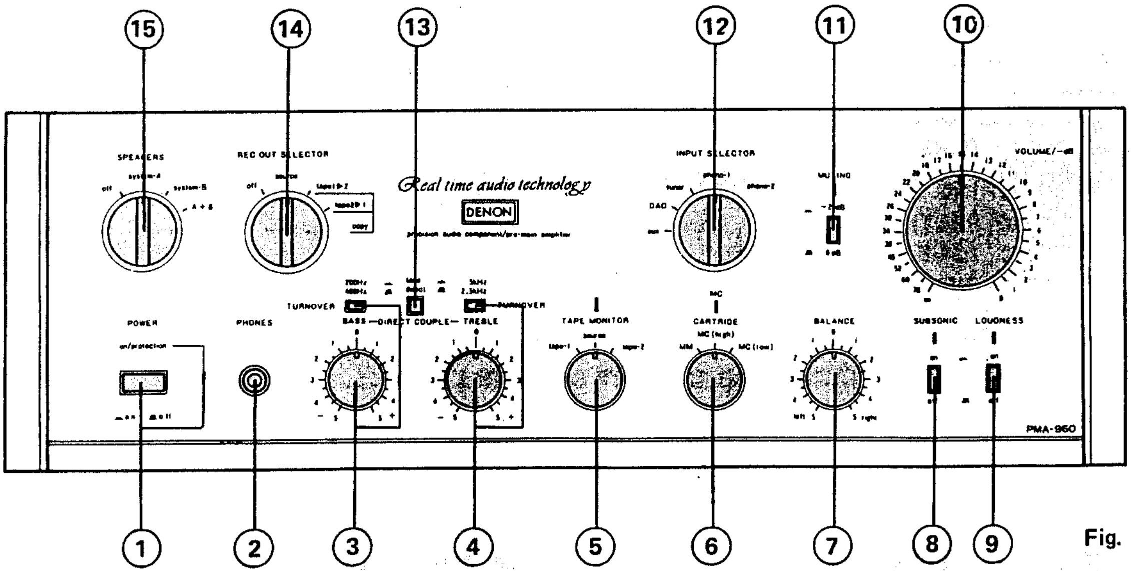
Tone Control Adjustable Range:	BASS	100 Hz ±8 dB/50 Hz ±8 dB
	TREBLE	10 kHz ±8 dB/20 kHz ±8 dB
Filtering Characteristics:	SUBSONIC	18 Hz, 6 dB/oct
Loudness Characteristics:	Low frequency	100 Hz + 7 dB
	High frequency	10 kHz + 6 dB
Muting Characteristics:	–20 dB	

POWER SOURCE:	Germany and France AC 220 V, 50 Hz; U.K. and Australia AC 240 V, 50 Hz; U.S.A. and Canada AC 120 V, 60 Hz; Asia 110/120/220/240 V, 50/60 Hz (Multiple)
POWER CONSUMPTION:	280 W (U.S.A.); 660 VA (Canada); 310 W (IEC); 245 W (Multiple)
DIMENSIONS:	470 mm (18-1/2")W x 168 mm (6-39/64")H x 440 mm (17-21/64")D (including rubber feet, control knobs, and terminals.)
WEIGHT:	15 kg (33 lbs 1 oz)

Design and specifications are subject to change without prior notice.

NOTE: The following codes correspond to the appropriate models.
E1 for Asia, E2 for Europe, E3 for U.S.A., EA for Australia, EC for Canada etc.
This Service Manual is prepared based on E2.

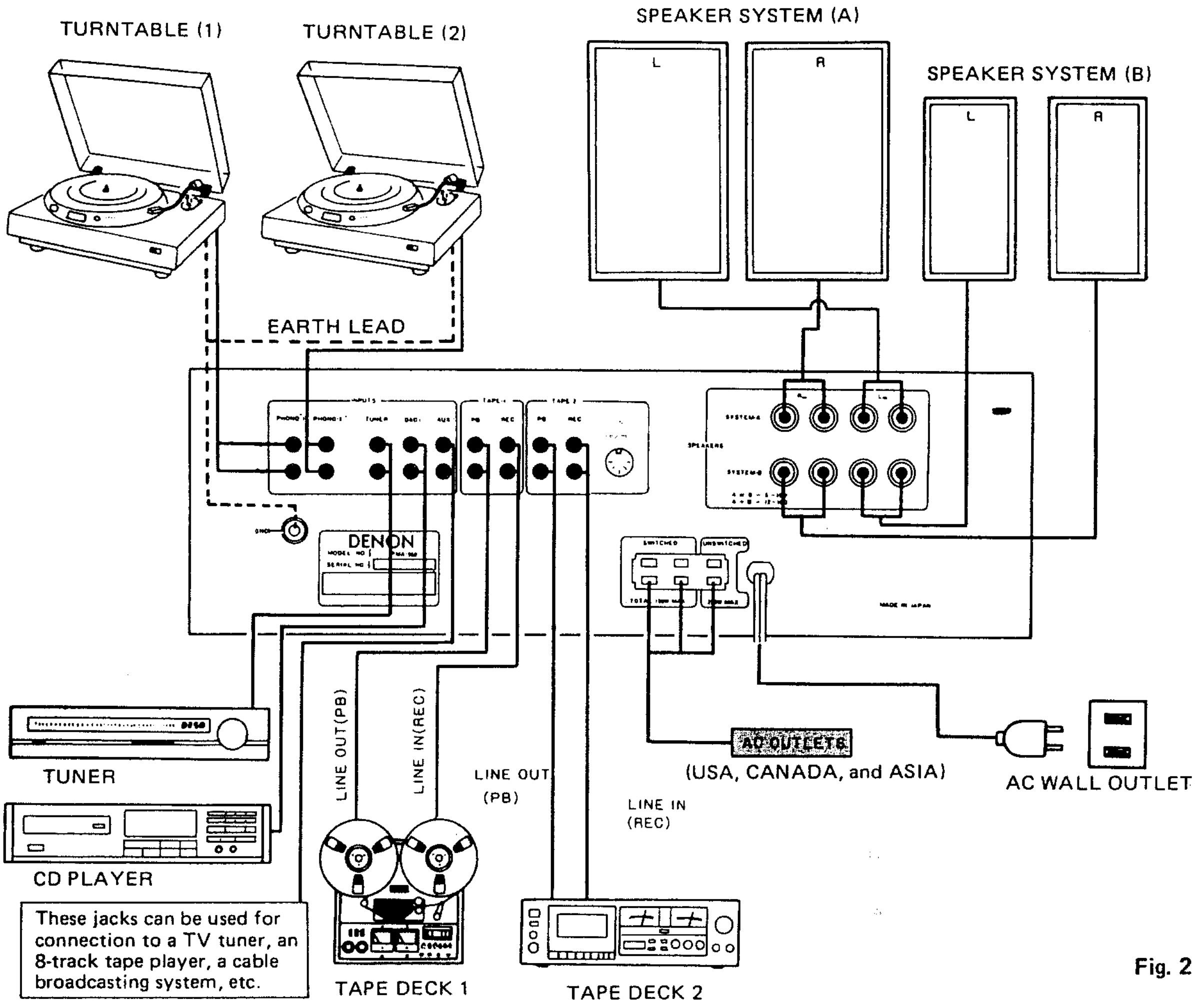
CONTROL AND FUNCTIONS



⑮
⑭
⑬
⑫
⑪
⑩
SPEAKERS
off
system-A
system-B
A + B
REC OUT SELECTOR
off
source
tape1 ▷ 2
tape2 ▷ 1
copy
Real time audio technology
DENON
precision audio component/pre-main amplifier
INPUT SELECTOR
DAD
tuner
phono-1
phono-2
aux
MUTING
– 20 dB
0 dB
VOLUME/–dB
POWER
on/protection
on
off
PHONES
TURNOVER
200Hz
400Hz
BASS
DIRECT COUPLE
TREBLE
5kHz
2.5kHz
TURNOVER
TAPE MONITOR
tape-1
source
tape-2
MC
CARTRIDGE
MM
MC (high)
MC (low)
BALANCE
left
right
SUBSONIC
LOUDNESS
on
off
PMA-960
①
②
③
④
⑤
⑥
⑦
⑧
⑨

Fig. 1

CONNECTIONS


TURNTABLE (1)
TURNTABLE (2)
SPEAKER SYSTEM (A)
L
R
SPEAKER SYSTEM (B)
L
R
EARTH LEAD
DENON
TUNER
CD PLAYER
LINE OUT(PB)
LINE IN(REC)
LINE OUT
(PB)
LINE IN
(REC)
AC OUTLETS
(USA, CANADA, and ASIA)
AC WALL OUTLET
TAPE DECK 1
TAPE DECK 2

These jacks can be used for connection to a TV tuner, an 8-track tape player, a cable broadcasting system, etc.

Fig. 2

- Do not plug the power source cord into an AC outlet until all the connections are completed.
- Connect the right (R) channel plug to the right (R) channel jack, and the left channel plug to the left channel jack.
- Insert the plugs firmly into the corresponding jacks. If a connection is incomplete, noise may be generated.
- Plug the power source cord for audio equipment into the AC OUTLET terminal. Do not use this terminal for other electric appliances such as hair dryer. (NOT INCLUDED IN SYSTEM FOR EUROPEAN USE)
- Do not bundle the pin plug cords with the power source cord and do not place the pin plug cords near the power transformer, or humming and other noise may be generated.
- Always connect the pin plug cord to the input terminal "PHONO" because this terminal is highly sensitive. If this terminal is not connected, induction hum may be generated.

NOTES FOR SHORTING PIN

Two shorting pins are inserted the PHONO-1 terminal on the rear panel of this unit. When a player connected to the PHONO-2 terminal, leave the shorting pins as they are. When connecting a player to the PHONO-1 terminal, remove the shorting pins and insert them into the PHONO-2 terminal. Do not attempt to insert the shorting pins into the REC terminal or this unit may not work properly.

In case of shorting pins are removed, insert them into the unused terminals (TUNER, DAD, AUX, PB-1 or PB-2) or save them for reuse.

METHOD OF ADJUSTMENTS

IDLE CURRENT ADJUSTMENT

Preparations

1. Place the unit in normal operating condition and avoid excessive ventilation or air circulation. Adjustment must be performed in the unit circumference temperature 15° ~ 30°C.
2. Set the switches to the following positions.
   - POWER → off
   - VOLUME → –∞ (↶ min.)
   - DIRECT COUPLE → DIRECT
   - SPEAKER → No load (Do not connect speaker or dummy)

Adjustment

1. Remove top cover and rotate VR401, VR402 on the ETC0667 (Power Amplifier Unit) extremely counterclockwise. Connect a DC voltmeter across the test points Rch TP1, 2 and Lch TP3, 4.
2. Plug in the power cord to AC power source (-5% to +5% allowable) and turn on (▄) the power switch. Warm up the unit for one minute and adjust the VR401 and VR402 by means of rotating it clockwise and obtain the voltage:–
   1mV ± 0.2 mV DC (Pre-adjustment value)
3. 10 ~ 15 minutes later from the pre-adjustment, rotate the VR401, VR402 and adjust the voltage to:–
   18mV ±2mV DC

DISTORTION FACTOR ADJUSTMENT

Adjustment of 20 kHz

1. Connect a 8-ohm loading resistor across the SP terminal.
2. Inject 20 kHz sine wave signal through the TUNER terminal. Operate both R and L channels and obtain 70 watts (23.7 Vrms) across the 8-ohm resistor.
3. Adjust VR403 (Rch) and VR404 (Lch) for minimum distortion.

NEUTRAL POTENTIAL ADJUSTMENT

Preparation

1. Insert the shorting pin into the PHONO input terminal.
2. Connect a digital voltmeter (feasible to measure within the range 0.01 mV ~ 1 mV DC) to the PHONO output terminal (Rch X, Y and Lch Y, Z).
3. For simplified adjustment connect a 100K-ohm (1/4 watt or so) resistor across the test points (Lch TP-1 and Rch TP-2) on the unit.
4. Set the unit's cartridge switch to MM position and the VOLUME to –∞ (↶min.) position.

Adjustment

1. Perform the following adjustment about two minutes after turning on (▄) the POWER switch.
   - Rotate VR101 (100K-ohm semi-fixed resistor) and adjust the Lch meter reading for 0.5 mV DC or less value.
   - Rotate VR102 (100K-ohm semi-fixed resistor) and adjust the Rch meter reading for 0.5 mV DC or less value.

ETC0667
POWER AMP. UNIT ALIGNMENT POINTS & CONNECTIONS

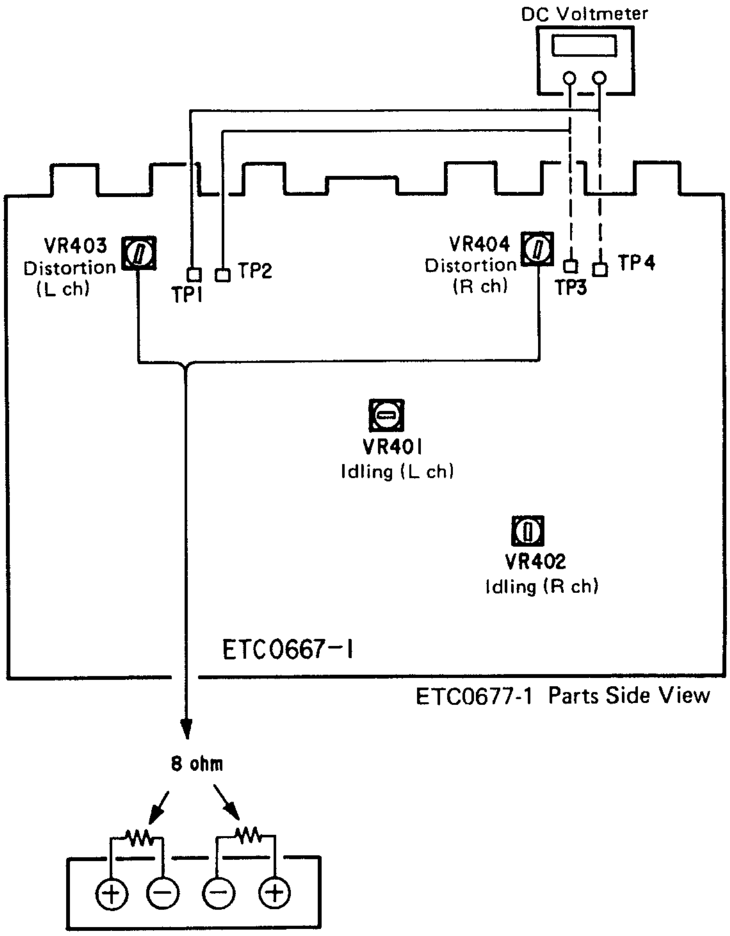

DC Voltmeter
VR403
Distortion
(L ch)
TP1
TP2
VR404
Distortion
(R ch)
TP3
TP4
VR401
Idling (L ch)
VR402
Idling (R ch)
ETC0667-1
ETC0677-1 Parts Side View
8 ohm

Fig. 3

ETC0668-1
INPUT & EQ. UNIT ALIGNMENT POINTS & CONNECTIONS

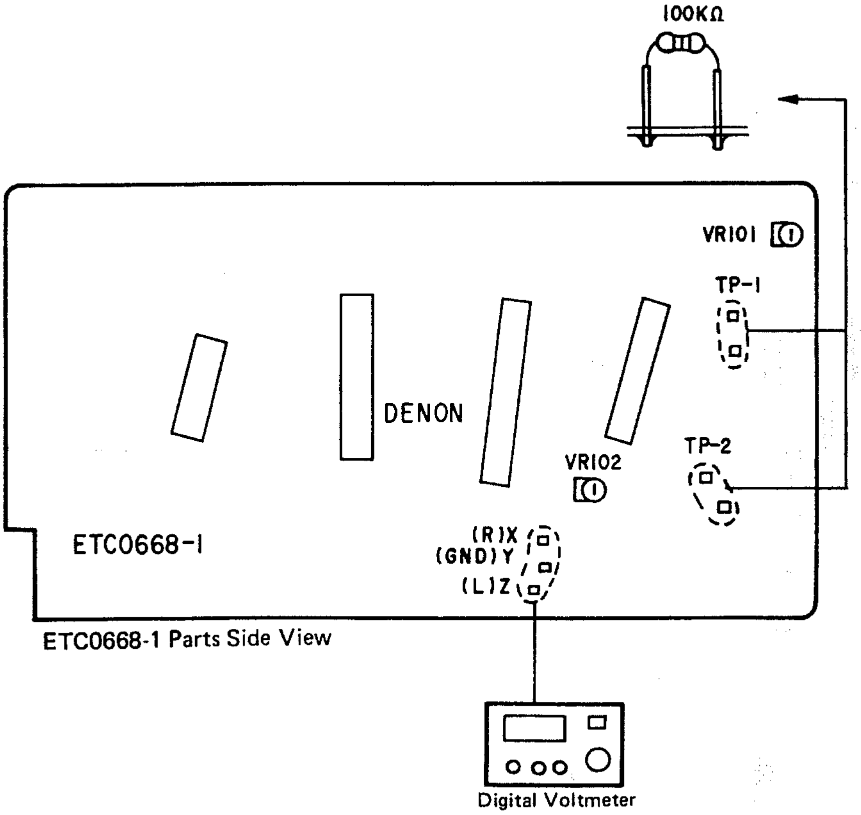

100KΩ
VR101
TP-1
DENON
VR102
TP-2
(R)X
(GND)Y
(L)Z
ETC0668-1
ETC0668-1 Parts Side View
Digital Voltmeter

Fig. 4

BLOCK, LEVEL DIAGRAM

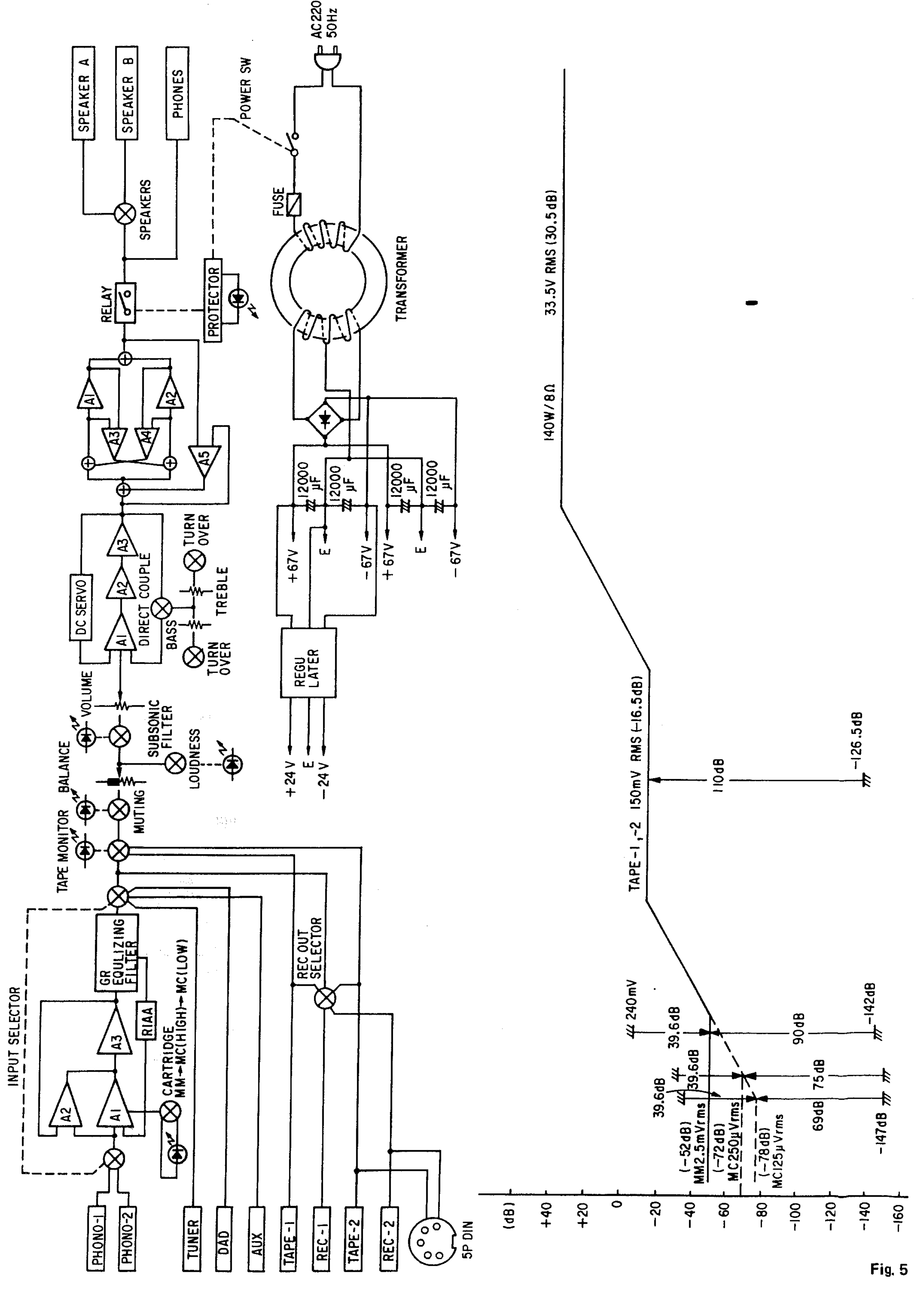
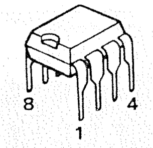

SPEAKER A
SPEAKER B
PHONES
SPEAKERS
RELAY
PROTECTOR
POWER SW
AC220V 50Hz
FUSE
TRANSFORMER
A1
A2
A3
A4
A5
DC SERVO
DIRECT COUPLE
BASS
TREBLE
TURN OVER
TURN OVER
VOLUME
SUBSONIC FILTER
LOUDNESS
BALANCE
MUTING
TAPE MONITOR
INPUT SELECTOR
GR EQULIZING FILTER
RIAA
CARTRIDGE MM→MC(HIGH)→MC(LOW)
REC OUT SELECTOR
PHONO-1
PHONO-2
TUNER
DAD
AUX
TAPE-1
REC-1
TAPE-2
REC-2
5P DIN
12000 μF
12000 μF
12000 μF
12000 μF
+67V
E
−67V
+67V
E
−67V
REGU LATER
+24V
E
−24V
140W/8Ω
33.5V RMS (30.5dB)
TAPE-1,-2 150mV RMS (-16.5dB)
110dB
-126.5dB
240mV
39.6dB
90dB
-142dB
39.6dB
75dB
39.6dB
69dB
-147dB
(−52dB) MM2.5mVrms
(−72dB) MC250μVrms
(−78dB) MC125μVrms
(dB)
+40
+20
0
−20
−40
−60
−80
−100
−120
−140
−160

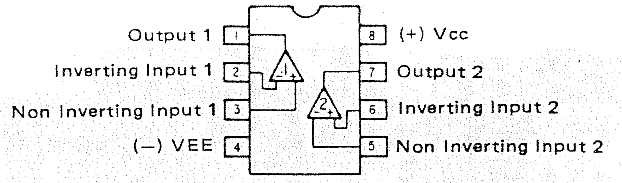
Fig. 5

SEMICONDUCTORS

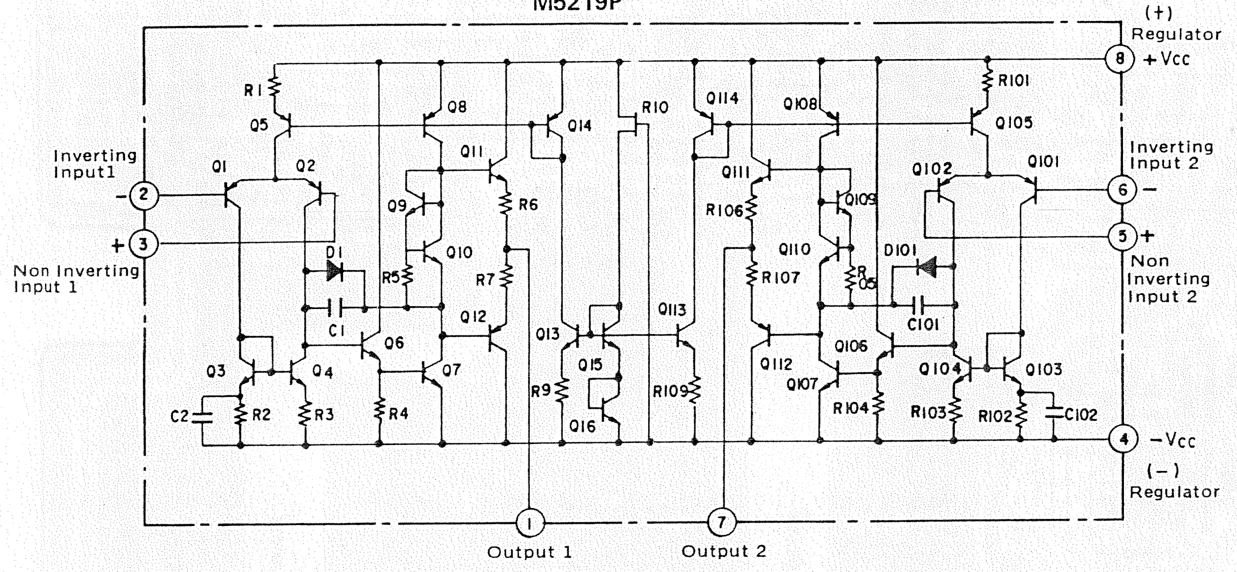
M5218P
M5219P
(Mitsubishi)



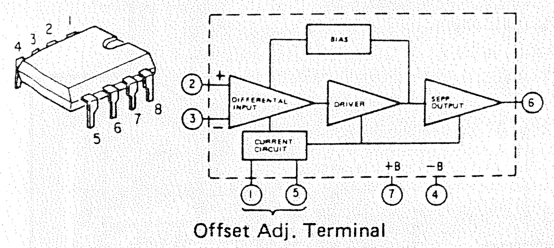
M5218P
M5219P


Output 1
Inverting Input 1
Non Inverting Input 1
(–) VEE
(+) Vcc
Output 2
Inverting Input 2
Non Inverting Input 2
1
2
3
4
5
6
7
8

M5219P

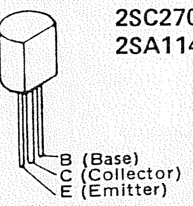

(+) Regulator
8 +Vcc
Inverting Input1
2 –
+ 3
Non Inverting Input 1
Inverting Input 2
6 –
5 +
Non Inverting Input 2
4 –Vcc
(–) Regulator
1
Output 1
7
Output 2
R1
Q5
Q1
Q2
D1
C1
Q3
C2
R2
Q4
R3
Q6
R4
R5
Q8
Q9
Q11
Q10
Q12
Q7
R7
R6
Q14
R10
Q13
Q15
R9
Q16
Q113
R109
Q114
Q111
R106
Q110
R107
Q112
Q107
Q108
Q109
R105
D101
C101
Q106
R104
Q104
R103
Q102
R102
Q101
Q105
R101
Q103
C102

μPC741C (NEC)

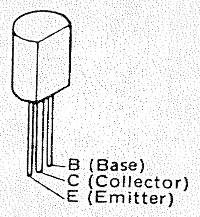

1
2
3
4
5
6
7
8
BIAS
DIFFERENTIAL INPUT
DRIVER
SEPP OUTPUT
CURRENT CIRCUIT
+B
–B
Offset Adj. Terminal

- **TRANSISTORS (include FET)**

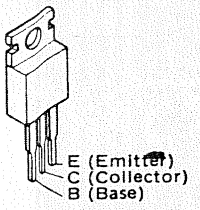
2SC1815(BL)
2SC1841(E/F)
2SA1015(Y)


B (Base)
C (Collector)
E (Emitter)

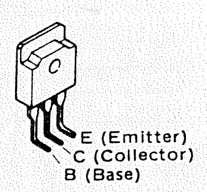
2SC2705(O/Y)
2SA1145(O/Y)


B (Base)
C (Collector)
E (Emitter)

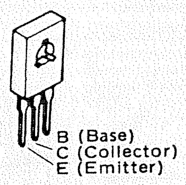
2SC2238(Y)
2SA968(Y)


E (Emitter)
C (Collector)
B (Base)

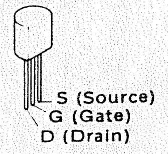
2SC2581 LB(O)/(Y)
2SA1106 LB(O)/(Y)


E (Emitter)
C (Collector)
B (Base)

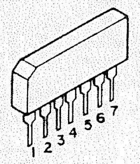
2SC2824(Y/O)
2SA1184(Y/O)


B (Base)
C (Collector)
E (Emitter)

FET
2SK369(BL)/(GR)
2SK373(Y)

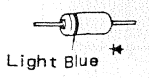

S (Source)
G (Gate)
D (Drain)

FET
2SK270A(BL)/(V)

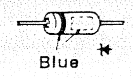


- **DIODES (include LED)**

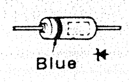
1S2076



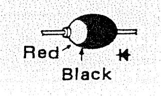
HZ7B-3
HZ15-2
HZ-16-2
HZ24-2
HZ-30



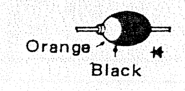
MZ-303A



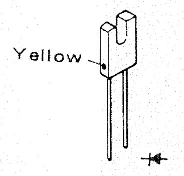
KB-265



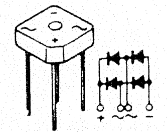
KB-462


Orange
Black

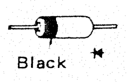
STV-1H



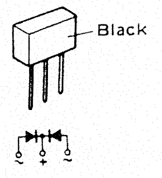
RB-602UFR



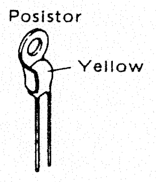
W03C



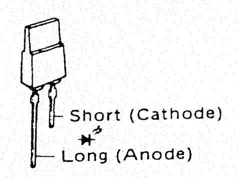
1D2C-1



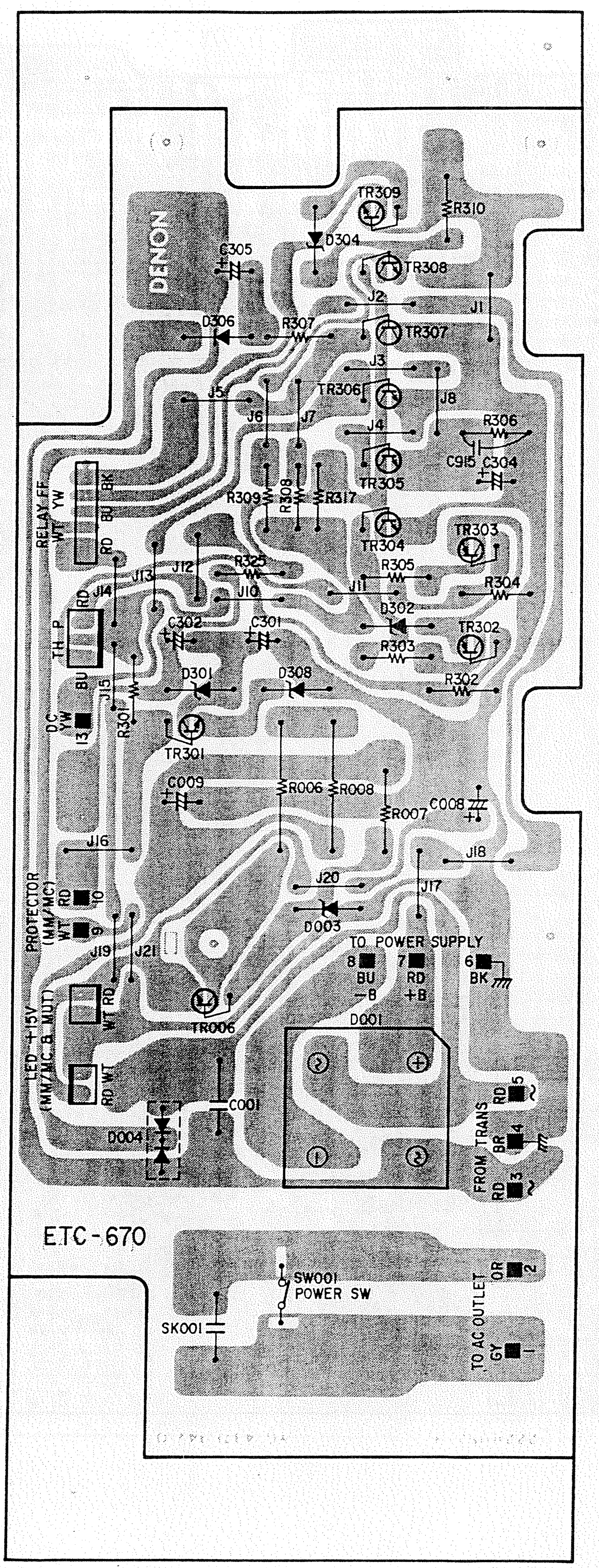
PTH487A01BD222TS


Posistor
Yellow

PR5552K-1 Red
AY5552K-1 Orange


Short (Cathode)
Long (Anode)

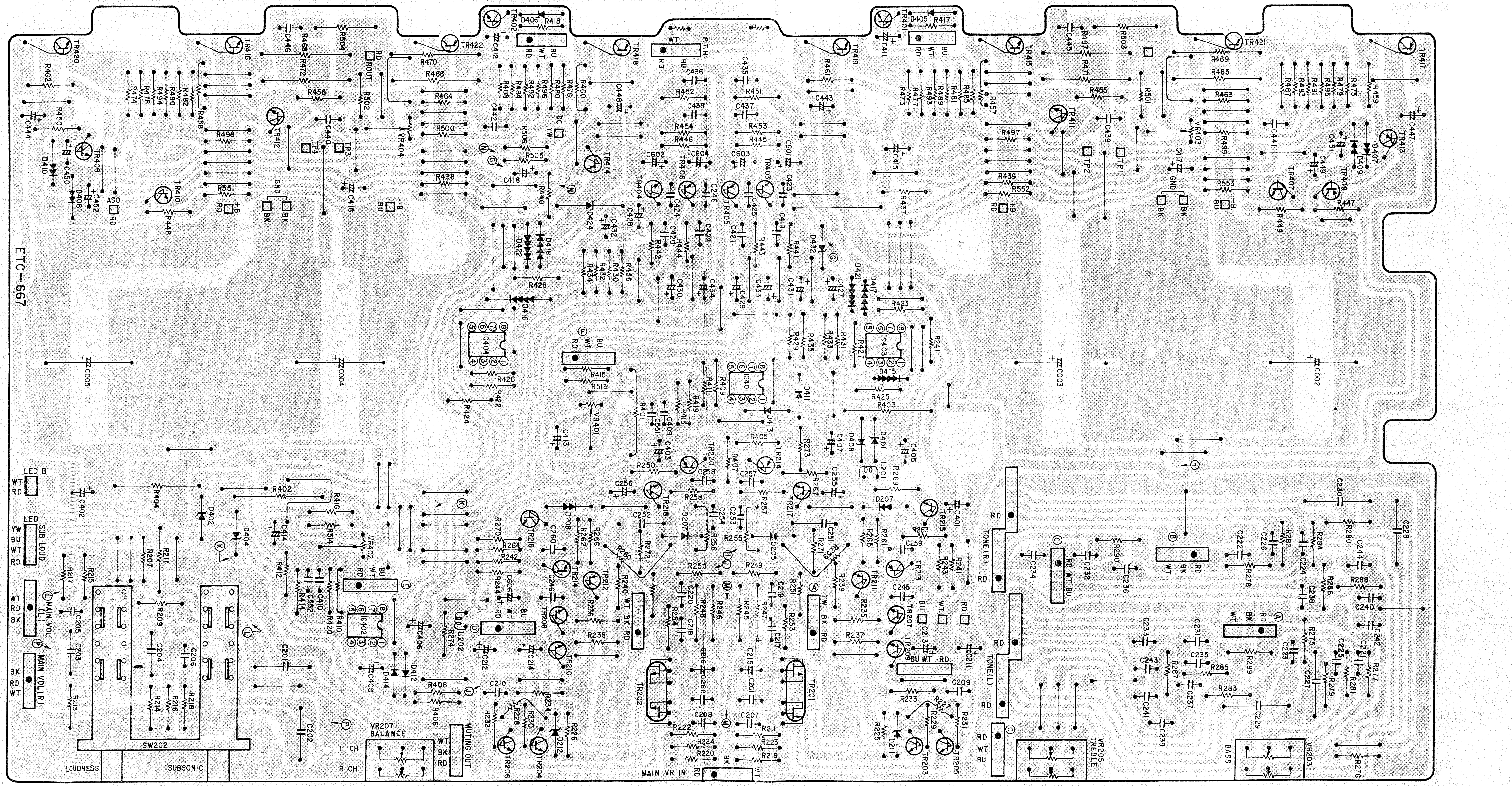
PRINTED WIRING BOARD PATTERNS AND PARTS LIST
ETC0670D RECTIFIER UNIT


DENON
ETC-670
TR309
R310
D304
C305
TR308
J2
J1
D306
R307
TR307
J3
J5
TR306
J8
J6
J7
J4
R306
C915
C304
TR305
R309
R308
R317
RELAY FF
WT YW
BU BK
RD BU
TR304
TR303
R325
J12
R305
J13
J10
J11
R304
RD J14
D302
TH P
C302
C301
TR302
R303
R302
D301
D308
BU
R301
DC YW
J3
TR301
C009
R006
R008
R007
C008
J16
J18
J20
J17
PROTECTOR (MM/MC)
RD
WT
J19
J21
D003
TO POWER SUPPLY
8 BU –B
7 RD +B
6 BK
D001
TR006
LED +15V (MM/MC B MUT)
WT RD
RD WT
C001
D004
FROM TRANS
RD 5
BR 4
RD 3
SW001
POWER SW
SK001
TO AC OUTLET
OR 2
GY 1

ETC0670D RECTIFIER UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
		SEMICONDUCTORS
TR006	2730199001	2SC2238(Y) TRANSISTOR
TR302, 303	2710102005	2SA1015(Y) TRANSISTOR
TR304 ~306	2730198015	2SC1815(BL) TRANSISTOR
TR308	2730198015	2SC1815(BL) TRANSISTOR
TR309	2740060007	2SD667A(C) TRANSISTOR
D001	2760335000	RB-602UFR DIODE
D003	2760256008	HZ-16-2 ZENER
D004	2760151006	1D2C-1 DIODE
D302	2760244007	MZ303A ZENER
D304	2760254000	HZ7B-3 ZENER
D311	2760049008	1S2076 DIODE
		RESISTORS
⚠R006	2440090021	220 ohm ±5% 2W METAL OXIDE (NB)
R007	2410212004	13k ohm ±5% 1/2W CARBON
⚠R008	2440090021	220 ohm ±5% 2W METAL OXIDE (NB)
R302	2412129001	36k ohm ±5% 1/4W CARBON
R303	2412120000	15k ohm ±5% 1/4W CARBON
R304	2412129001	36k ohm ±5% 1/4W CARBON
R305	2412120000	15k ohm ±5% 1/4W CARBON
R306	2412116001	10k ohm ±5% 1/4W CARBON
R309	2412092002	1k ohm ±5% 1/4W CARBON
R310	2412144002	150k ohm ±5% 1/4W CARBON
R317	2412150009	270k ohm ±5% 1/4W CARBON
R325	2412056006	33 ohm ±5% 1/4W CARBON
R326	2412140006	100k ohm ±5% 1/4W CARBON
		CAPACITORS
C001	2561017019	0.01μF ±10% 630V METALIZED
C008	2544089006	1μF ±20% 50V ELECTROLYTIC
C009	2544063035	100μF ±20% 80V ELECTROLYTIC
C301	2549015004	22μF ±10% 10V ELECTROLYTIC
C304	2544161034	330μF ±20% 6.3V ELECTROLYTIC
C915	2533643000	470pF ±5% 50V CERAMIC
SK001	2538003014	4700pF ±20% 400V CERAMIC
		SWITCH
SW001	2124405013	PUSH SWITCH
		OTHER PARTS
	2221015306	P.W. BOARD
	2090008120	JUMPER WIRE P=10mm USED 15
R554, 555	2090051009	0 ohm JUMPER TAPE USED 2
	EP-5667H1	TERMINAL PIN USED 12
	4170140207	RADIATOR
	4730354019	TAPPING SCREW (2) 3x8 USED 2
	2038123009	5P CONNECTOR CORD
	2050185054	5P WIRE HOLDER
	2050190023	2PNH CONNECTOR BASE USED 2
	2050190036	3PNH CONNECTOR BASE

ETC0667 TONE & POWER UNIT


ETC-667
LED B
LED
SUB LOUD
MAIN VOL (L)
MAIN VOL (R)
SW202
LOUDNESS
SUBSONIC
VR207 BALANCE
L CH
R CH
MUTING OUT
MAIN VR IN
TONE (R)
TONE (L)
VR205 TREBLE
BASS
VR203
VR401
VR402
VR403
VR404
IC401
IC402
IC403
IC404
TR201
TR202
TR401
TR402
TR403
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TR406
TR407
TR408
TR409
TR410
TR411
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TR415
TR416
TR417
TR418
TR419
TR420
TR421
TR422
C002
C003
C004
C005
ASO
GND
TP1
TP2
TP3
TP4
P.T.H
DC
+B
-B
RD
WT
BK
BU
YW

ETC0667D TONE & POWER UNIT PARTS LIST

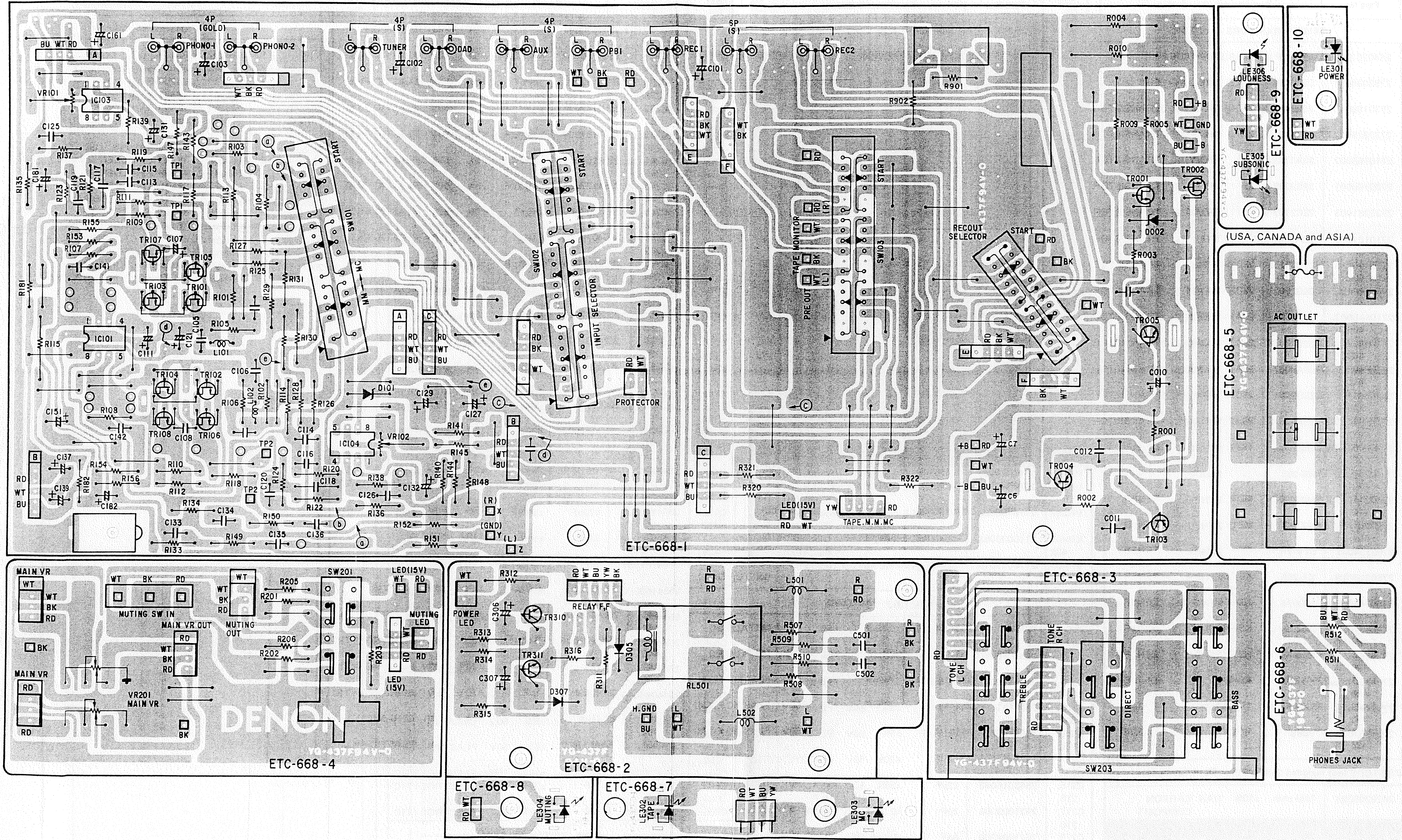
Ref. No.	Part No.	Part Name & Descriptions
		SEMICONDUCTORS
IC401 ~404	2630257001	M5218P (MITSUBISHI) IC
TR201, 202	2750036021	2SK270A(BL)/(V) FET
TR203 ~206	2730198015	2SC1815(BL) TRANSISTOR
TR207 ~210	2730235020	2SC1841(E/F) TRANSISTOR
TR211 ~214	2710168007	2SA1145(O/Y) TRANSISTOR
TR215, 216	2730199001	2SC2238(Y) TRANSISTOR
TR217, 218	2730281003	2SC2705(O/Y) TRANSISTOR
TR219, 220	2710104003	2SA968(Y) TRANSISTOR
TR401, 402	2730198015	2SC1815(BL) TRANSISTOR
TR403, 404	2730281003	2SC2705(O/Y) TRANSISTOR
TR405, 406	2710168007	2SA1145(O/Y) TRANSISTOR
TR407, 408	2730281003	2SC2705(O/Y) TRANSISTOR
TR409, 410	2710168007	2SA1145(O/Y) TRANSISTOR
TR411, 412	2730199001	2SC2238(Y) TRANSISTOR
TR413, 414	2710104003	2SA968(Y) TRANSISTOR
D205, 206	2760049008	1S2076 DIODE
D207, 208	2760216019	KB-265 DIODE
D211, 212	2760244007	MZ303A ZENER
D401 ~404	2760253001	MZ15-2 ZENER
D405, 406	2760334001	STV-1H ZENER
D407 ~410	2760216019	KB-265 ZENER
D411 ~414	2760049008	1S2076 ZENER
D415 ~422	2760337008	KB462 ZENER
D423 ~426	2760254000	HZ7B-3 ZENER
D427, 428	2760337008	KB-462 DIODE
D429, 430	2760049008	1S2076 DIODE
D431 ~434	2760057003	V06B DIODE
		RESISTORS (not included Carbon Film ±5%, 1/4W Type)
R215, 216	2420203003	10M ohm ±10% 1/4W CARBON COMPOSIT
⚠R229 ~232	2412370025	7.5k ohm ±5% 1/4W CARBON (NB)
⚠R239, 240	2412321029	1.5k ohm ±5% 1/4W CARBON (NB)
⚠R241 ~244	2412321003	1k ohm ±5% 1/4W CARBON (NB)
R245, 246	2410169005	220 ohm ±5% 1/2W CARBON COMPOSIT

Ref. No.	Part No.	Part Name & Descriptions
R247, 248	2410204009	6.2k ohm ±5% 1/2W CARBON COMPOSIT
⚠R255 ~258	2412370009	180 ohm ±5% 1/4W CARBON (NB)
⚠R259, 260	2440053026	10k ohm ±5% 1W METAL OXIDE (NB)
⚠R263, 264	2412321045	220 ohm ±5% 1/4W CARBON (NB)
⚠R267 ~270	2412321016	22 ohm ±5% 1/4W CARBON (NB)
⚠R401 ~404	2440106025	4.7k ohm ±5% 2W METAL OXIDE (NB)
⚠R405, 406	2412314007	100 ohm ±5% 1/4W CARBON (NB)
⚠R409 ~414	2412369078	4.7k ohm ±5% 1/4W CARBON (NB)
⚠R419, 420	2412369078	4.7k ohm ±5% 1/4W CARBON (NB)
⚠R441, ~446	2412321003	1k ohm ±5% 1/4W CARBON (NB)
⚠R451 ~456	2412314007	100 ohm ±5% 1/4W CARBON (NB)
⚠R457 ~464	2412321032	4.7 ohm ±5% 1/4W CARBON (NB)
⚠R465 ~472	2442029003	0.22 ohm ±5% 2W METAL OXIDE (NB)
⚠R473, ~496	2412321016	22 ohm ±5% 1/4W CARBON (NB)
⚠R501, 502	2412314007	100 ohm ±5% 1/4W CARBON (NB)
⚠R503, 504	2440025025	47 ohm ±5% 1W METAL OXIDE (NB)
⚠R521, 522	2412369052	2.2k ohm ±5% 1/4W CARBON (NB)
VR203	2110309110	VARIABLE RESISTOR 100k ohm (BASS)
VR205	2110309107	VARIABLE RESISTOR 50k ohm (TREBLE)
VR207	2110406000	VARIABLE RESISTOR 100k ohm (BALANCE)
VR401, 402	2116025058	SEMI FIXED RESISTOR 10k ohm (IDLING)
VR403, 404	2116025016	SEMI FIXED RESISTOR 100 ohm (DISTORTION)
		CAPACITORS
C201, 202	2561030067	0.18μF ±5% 100V METALIZED
C203, 204	2561030070	0.1μF ±5% 100V METALIZED
C205, 206	2554142001	750pF ±5% 50V PLASTIC FILM
C207, 208	2554131009	270pF ±5% 50V PLASTIC FILM
C209, 210	2554145008	0.001μF ±5% 50V PLASTIC FILM
C211 ~214	2544181001	1μF ±20% 50V ELECTROLYTIC
C215, 216	2543016083	22μF ±20% 50V ELECTROLYTIC (B.P)
C217, 218	2521003005	3pF ±0.25pF 50V MICA
C219, 220	2521008000	8pF ±0.5pF 50V MICA
C221, 222	2554131009	270pF ±5% 50V PLASTIC FILM
C223 ~226	2554183002	0.039μF ±5% 50V PLASTIC FILM

Ref. No.	Part No.	Part Name & Descriptions
C227 ~230	2561030041	0.27μF ±5% 100V METALIZED
C231 ~234	2554159007	0.0039μF ±5% 50V PLASTIC FILM
C235, 236	2554127000	180pF ±5% 50V PLASTIC FILM
C237, 238	2554147006	0.0012μF ±5% 50V PLASTIC FILM
C239, 240	2554181004	0.033μF ±5% 50V PLASTIC FILM
C241, 242	2554157009	0.0033μF ±5% 50V PLASTIC FILM
C243, 244	2554177005	0.022μF ±5% 50V PLASTIC FILM
C245, 246	2554127000	180pF ±5% 50V PLASTIC FILM
C251, 252	2554079048	0.01μF ±5% 100V PLASTIC FILM
C253, 254	2554145008	0.001μF ±5% 50V PLASTIC FILM
C255, 256	2544181001	1μF ±20% 100V ELECTROLYTIC
C257, 258	2554137003	470pF ±5% 50V PLASTIC FILM
C259, 260	2521081027	3pF ±0.5pF 500V MICA
C261, 262	2554121006	100pF ±5% 50V PLASTIC FILM
C401	2544181001	1μF ±20% 100V ELECTROLYTIC
C405 ~408	2544089002	100μF ±20% 50V ELECTROLYTIC
C409, 410, 414	2554137000	470pF ±5% 50V PLASTIC FILM
C411	2544181001	1μF ±20% 100V ELECTROLYTIC
C415 ~418	2544089006	1μF ±20% 50V ELECTROLYTIC
C419 ~422	2554137003	470pF ±5% 50V PLASTIC FILM
C423 ~426	2521079084	33pF ±10% 500V MICA
C427 ~434	2544181001	1μF ±20% 50V ELECTROLYTIC
C435 ~442	2554169000	0.01μF ±5% 50V PLASTIC FILM
C443, 444	2554181001	1μF ±20% 100V ELECTROLYTIC
C445, 446	2554169000	0.01μF ±5% 50V ELECTROLYTIC
C447, 448	2544181001	1μF ±20% 100V ELECTROLYTIC
C449 ~452	2544089006	1μF ±20% 50V ELECTROLYTIC
C461, 462	2533619005	47pF ±5% 50V CERAMIC
C551, 552	2554137003	470pF ±5% 50V PLASTIC FILM
C601	2544181001	1μF ±20% 100V ELECTROLYTIC
C603, 604	2544181001	1μF ±20% 100V ELECTROLYTIC
C606	2544181001	1μF ±20% 100V ELECTROLYTIC
		COIL, SWITCH
L201, 202	2350008006	INDUCTOR 22μH
SW202	2124461002	2P PUSH SWITCH

Ref. No.	Part No.	Part Name & Descriptions
		OTHER PARTS
	2221014307	P.W. BOARD
	2090008146	JUMPER WIRE P=5mm USED 1
	2090008120	JUMPER WIRE P=10mm USED 99
	2090008104	JUMPER WIRE P=15mm USED 6
	2090008162	JUMPER WIRE P=20mm USED 1
R552, 553	2090051009	0 ohm JUMPER TAPE USED 2
	EP-5667H1	TERMINAL PIN USED 20
	2050185038	3P WIRE HOLDER USED 17
	2050185041	4P WIRE HOLDER USED 4
	2050190023	2PNH CONNECTOR BASE
	2050190049	4PNH CONNECTOR BASE
	2034203059	3P CONNECTOR CORD
	2034215005	3P CONNECTOR CORD
	2034215018	3P CONNECTOR CORD
	2034215021	3P CONNECTOR CORD
	2034215034	3P CONNECTOR CORD
	2042048031	8P CONNECTOR CORD USED 2

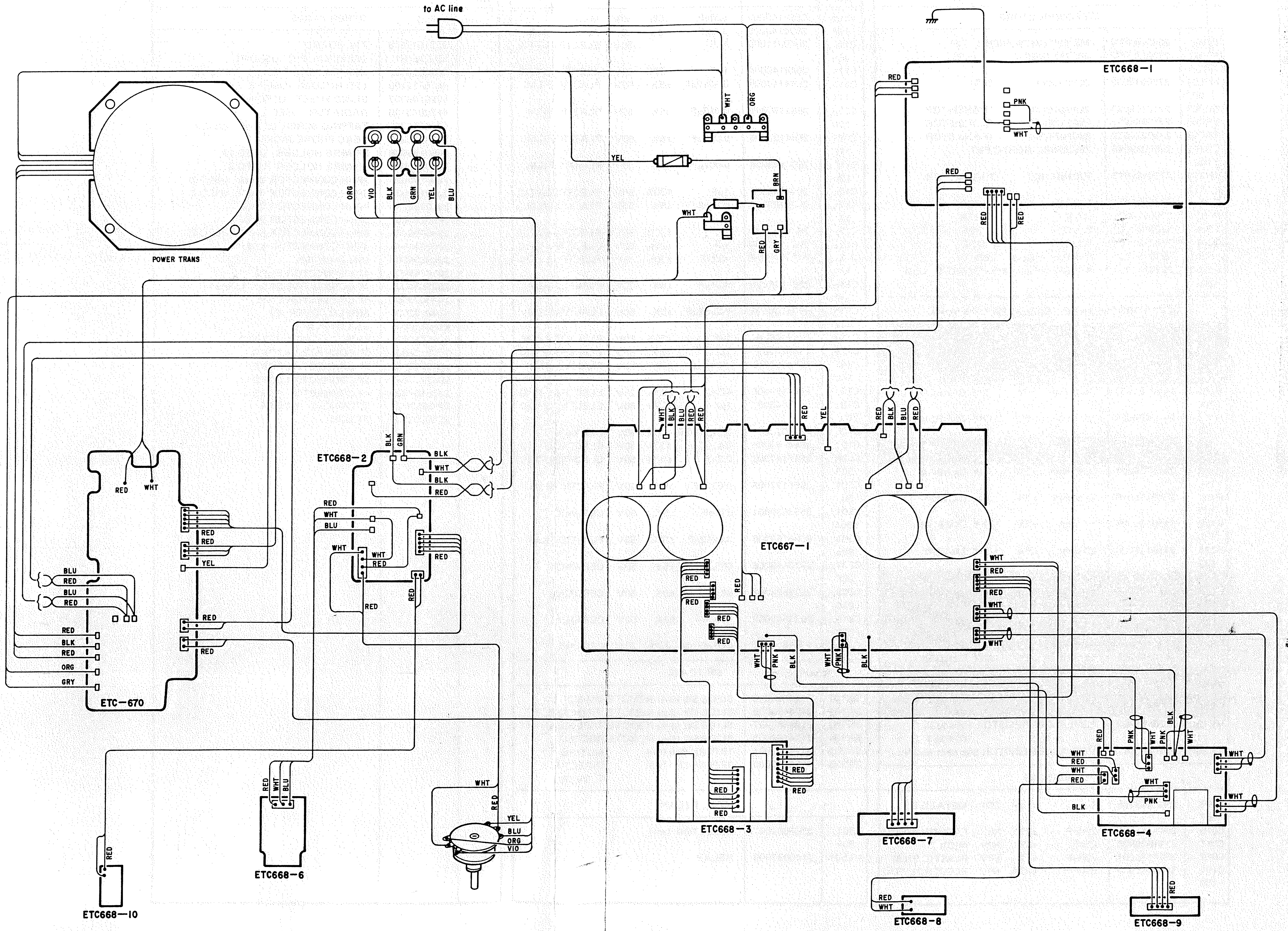
ETC0668 INPUT & EQ. UNIT


4P (GOLD)
PHONO-1
PHONO-2
4P (S)
TUNER
DAD
AUX
PB1
5P (S)
REC1
REC2
VR101
IC103
IC101
IC104
VR102
SW101
START
MM — MC
SW102
INPUT SELECTOR
PROTECTOR
SW103
TAPE MONITOR
PRE OUT
RECOUT SELECTOR
TAPE.M.M.MC
LED (15V)
ETC-668-1
LE306
LOUDNESS
LE305
SUBSONIC
ETC-668-9
LE301
POWER
ETC-668-10
(USA, CANADA and ASIA)
AC OUTLET
ETC-668-5
MAIN VR
MUTING SW IN
MAIN VR OUT
MUTING OUT
SW201
LED (15V)
MUTING LED
VR201
MAIN VR
DENON
ETC-668-4
POWER LED
TR310
TR311
RELAY F.F
RL501
L501
L502
H.GND
ETC-668-2
ETC-668-3
TONE L CH
TONE R CH
TREBLE
DIRECT
BASS
SW203
ETC-668-6
PHONES JACK
ETC-668-8
LE304
MUTING
ETC-668-7
LE302
TAPE
LE303
MC

ETC0668D INPUT & EQ. UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
IC101	2630284003	M5219P (MITSUBISHI) IC
IC103, 104	2630133002	μPC741 (NEC) IC
TR001, 002	2750042002	2SK373(Y) FET
TR003	2710102005	2SA1015(Y) TRANSISTOR
TR004	2710135027	2SA1184(Y/O) TRANSISTOR
TR005	2730236029	2SC2824(Y/O) TRANSISTOR
TR101 ~108	2750038045	2SK369(BL)/(GR)-C FET
TR310, 311	2730198015	2SC1815(BL) TRANSISTOR
D002	2760220034	HZ24-3 ZENER
D101	2760224001	HZ-30 ZENER
D305	2760191008	W03C DIODE
D307	2760191008	W03C DIODE
LE301	3939154008	PR5552K-1 RED LED
LE302 ~306	3939262000	AY5552K-1M(A/M/Y) ORANGE LED
RESISTORS (not included Carbon ±5%, 1/4W Type)		
R004, 005	2440098023	1k ohm ±5% 2W METAL OXIDE (NB)
⚠ R009, 010	2440098023	1k ohm ±5% 2W METAL OXIDE (NB)
R103, 104	2410161003	100 ohm ±5% 1/2W CARBON
R113, 14	2410160004	91 ohm ±5% 1/2W CARBON
115	2440037026	470 ohm ±5% 1W METAL OXIDE (NB)
R119, 120	2412318003	3.9k ohm ±2% 1/4W CARBON
R121, 122	2412318016	47k ohm ±2% 1/4W CARBON
R129, 130	2410129003	4.7 ohm ±5% 1/2W CARBON
R131, 132	2410137008	10 ohm ±5% 1/2W CARBON
⚠ R141	2412321090	680 ohm ±5% 1/4W CARBON (NB)
⚠ R145	2412321090	680 ohm ±5% 1/4W CARBON (NB)
⚠ R153 ~156	2412321003	1k ohm ±5% 1/4W CARBON (NB)
⚠ R311	2440041025	1k ohm ±5% 1W METAL OXIDE (NB)
R312	2410185005	1k ohm ±5% 1/2W CARBON
⚠ R509, 510	2440021029	22 ohm ±5% 1W METAL OXIDE (NB)
⚠ R511, 512	2440087021	120 ohm ±5% 2W METAL OXIDE (NB)
VR101, 102	2116025032	SEMI FIXED RESISTOR 100k ohm OFFSET
VR201	2110405001	VARIABLE RESISTOR 55k ohm MAIN
CAPACITORS		
C006, 007	2561018005	1μF ±10% 250V METALIZED
C010	2544166000	220μF ±20% 50V ELECTROLYTIC
C011	2521026008	47pF ±5% 50V MICA
C012	2554133007	330pF ±5% 50V PLASTIC FILM
C101 ~103	2544145005	0.47μF ±20% 50V ELECTROLYTIC
C105	2554143000	820pF ±5% 50V MICA
C106	2554143000	820pF ±5% 50V PLASTIC FILM
C107, 108	2549011008	1μF 50V ELECTROLYTIC
C111	2544146004	1μF ±20% 50V ELECTROLYTIC
C113, 114	2544147006	0.0012μF ±5% 50V PLASTIC FILM
C115, 116	2554175007	0.018μF ±5% 50V PLASTIC FILM
C117, 118	2554189006	0.068μF ±5% 50V PLASTIC FILM
C119, 120	2554145008	0.001μF ±5% 50V PLASTIC FILM
C121	2544146004	1μF ±20% 50V ELECTROLYTIC
C125, 126	2554169000	0.01μF ±5% 50V PLASTIC FILM
C127	2544146004	1μF ±20% 50V ELECTROLYTIC
C129	2544146004	1μF ±20% 50V ELECTROLYTIC
C131, 132	2544130007	100μF ±20% 10V ELECTROLYTIC
C133, 134	2554169000	0.01μF ±5% 50V PLASTIC FILM
C135, 136	2554165004	0.0068μF ±5% 50V PLASTIC FILM
C137	2544146004	1μF ±20% 50V ELECTROLYTIC
C139	2544146004	1μF ±20% 50V ELECTROLYTIC
C141, 142	2554161008	0.0047μF ±5% 50V PLASTIC FILM
C151	2544157006	470μF ±20% 25V ELECTROLYTIC
C181, 182	2544146004	1μF ±20% 50V ELECTROLYTIC
C185	2531024003	0.01μF +80,−20% 50V CERAMIC
C191	2544145005	0.47μF ±20% 50V ELECTROLYTIC
C306, 307	2544147003	2.2μF ±20% 50V ELECTROLYTIC
C501, 502	2554177005	0.022μF ±5% 50V PLASTIC FILM
C901 ~904	2533639001	330pF ±5% 50V CERAMIC
C905, 906	2554147006	0.0012μF ±5% 50V PLASTIC FILM
C907, 908	2533645008	560pF ±5% 50V CERAMIC
C909, 910	2533623004	68pF ±5% 50V CERAMIC
C911, 912	2533643000	470pF ±5% 50V CERAMIC
C913	2531024003	0.01μF +80,−20% 50V CERAMIC
SWITCHES		
SW101	2124465008	SLIDE SW (6-4) REMOTE MM-MC
SW102	2124496006	SLIDE SW (6-6) REMOTE INPUT SEL
SW103	2124466007	SLIDE SW (6-4) REMOTE TAPE MONI
SW104	2124187001	SLIDE SW (4-4) REMOTE REC OUT
SW201	2124462001	1P PUSH SWITCH MUTING
SW203	2124463000	3P PUSH SWITCH DIRECT & T. OVER
COIL, RELAY		
L501, 502	2350007007	INDUCTOR 1mH
RL501	2140037009	RELAY
OTHER PARTS		
	2221013308	P.W. BOARD
	EP-5667H1	TERMINAL PIN USED 41
	2090008120	JUMPER WIRE P=10mm USED 79
	4410412200	LED HOLDER USED 6
	1220109007	BLIND SHEET USED 6
	4170043100	RADIATOR USED 2
	4730354019	TAPPING SCREW (2) 3x8 USED 2
	2048100009	HEAD PHONE JACK
	2050185038	3P WIRE HOLDER USED 13
	2050185041	4P WIRE HOLDER USED 2
	2050190023	2PNH CONNECTOR BASE USED 2
	2050190036	3PNH CONNECTOR BASE USED 4
	2050190049	4PNH CONNECTOR BASE
	2050190052	5PNH CONNECTOR BASE
	2050190081	8PNH CONNECTOR BASE USED 2
	2050154043	4PNH CONNECTOR BASE
	2048059008	DIN JACK (5P)
	2050145007	4P CONNECTOR BASE
	2036084001	4P CONNECTOR BASE USED 2
	2040079002	6P CONNECTOR BASE
	4140292004	SHIELD COVER (C)
	4140240001	EARTH PLATE
	4140116106	SHIELD COVER USED 2
	2032136034	2P CONNECTOR CORD
	2032115042	2P CONNECTOR CORD
	2032136047	2P CONNECTOR CORD
	2036105090	4P CONNECTOR CORD
	EP-5667H2	TERMINAL USED 4
	2050003107	3T LUG

CONNECTION DIAGRAM


to AC line
POWER TRANS
ORG
VIO
BLK
GRN
YEL
BLU
WHT
ORG
YEL
BRN
WHT
RED
GRY
ETC668-1
RED
PNK
WHT
RED
RED
RED
ETC668-2
BLK
GRN
BLK
WHT
BLK
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ORG
GRY
RED
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YEL
RED
RED
ETC-670
ETC667-1
WHT
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PNK
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PNK
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BLK
ETC668-4
RED
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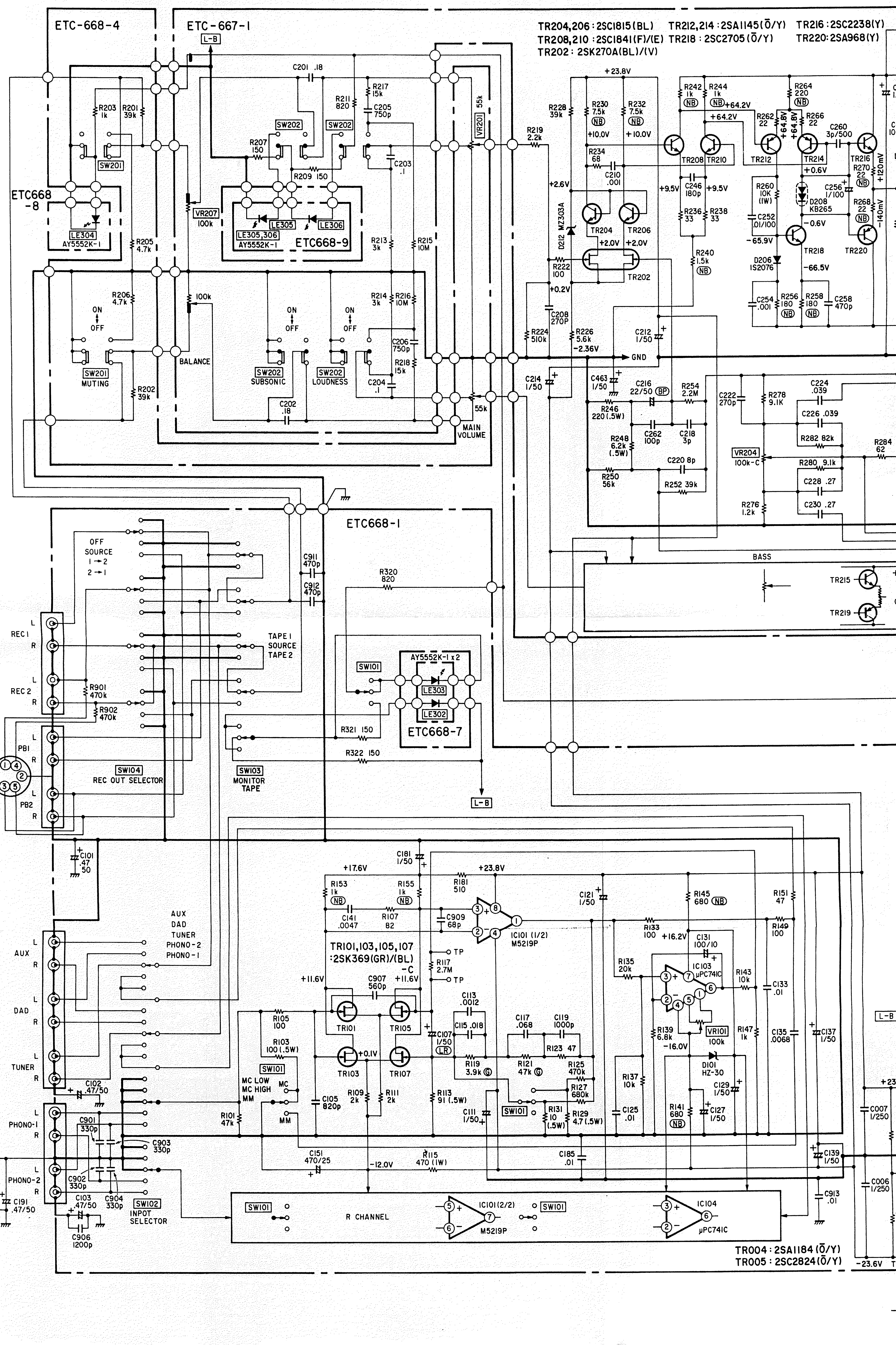
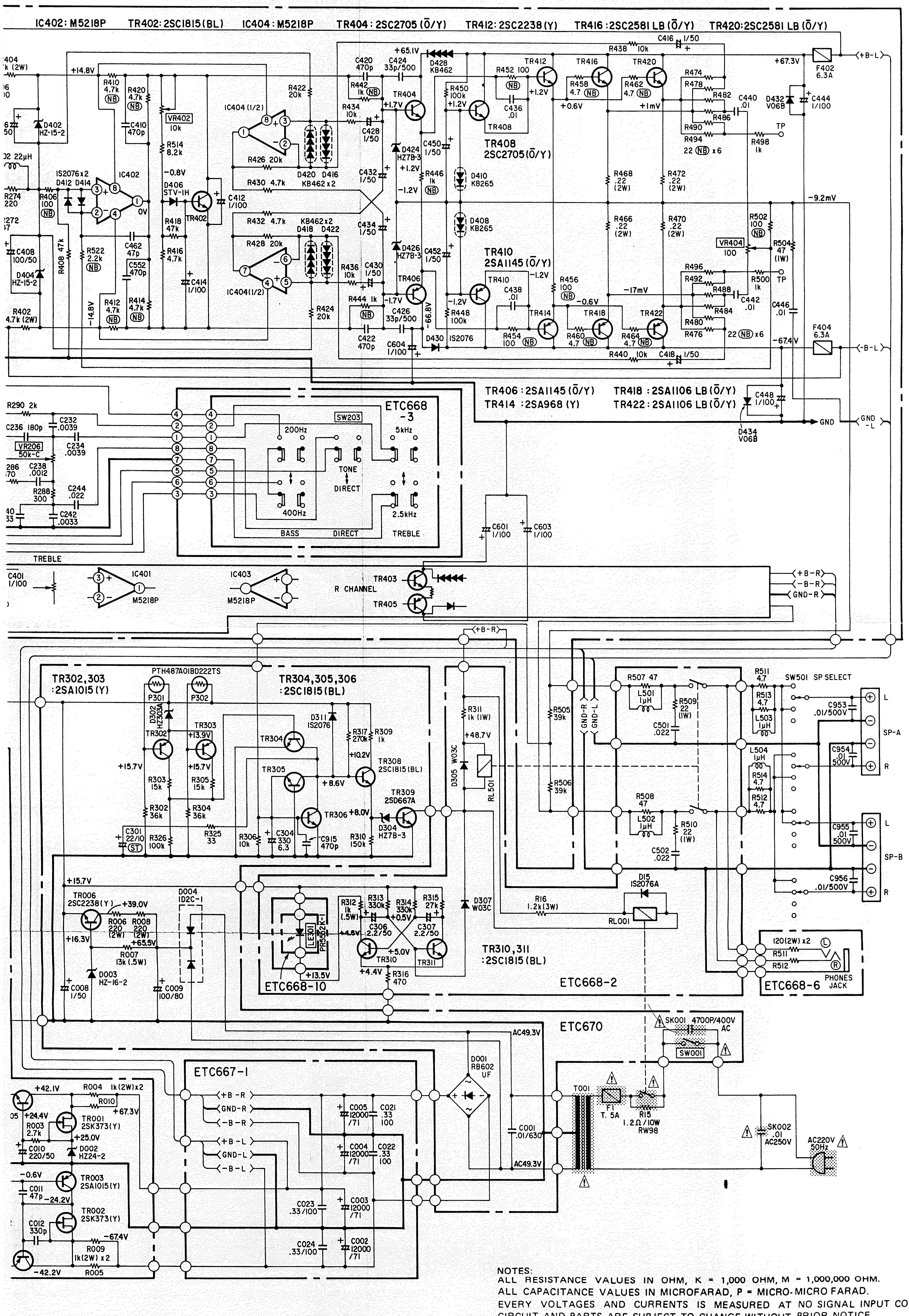
RED
ETC668-3
ETC668-7
RED
WHT
BLU
ETC668-6
WHT
RED
YEL
BLU
ORG
VIO
RED
ETC668-10
RED
WHT
ETC668-8
RED
ETC668-9

WIRING DIAGRAM



ETC-668-4
ETC-667-1
L-B
TR204,206 : 2SC1815(BL)
TR212,214 : 2SA1145(O/Y)
TR216 : 2SC2238(Y)
TR208,210 : 2SC1841(F)/(E)
TR218 : 2SC2705(O/Y)
TR220 : 2SA968(Y)
TR202 : 2SK270A(BL)/(V)
C201 .18
R217 15k
R211 820
C205 750p
SW202
SW201
R203 1k
R201 39k
R207 150
R209 150
C203 .1
VR201
55k
R219 2.2k
R228 39k
+23.8V
R230 7.5k
R232 7.5k
+10.0V
R234 68
C210 .001
R242 1k
R244 1k
+64.2V
R264 220
R262 22
R266 22
C260 3p/500
TR208
TR210
TR212
TR214
TR216
+0.6V
R270 22
+120mV
ETC668-8
LE304
AY5552K-1
VR207 100k
LE305,306
LE305
LE306
ETC668-9
+2.6V
MZ303A
D212
C246 180p
+9.5V
R236 33
R238 33
TR204
TR206
+2.0V
R260 10K (1W)
C252 .01/100
D208 KB265
C256 1/100
R268 22
-140mV
-0.6V
-65.9V
TR218
TR220
D206 1S2076
-66.5V
R240 1.5k
TR202
R222 100
+0.2V
R213 3k
R215 10M
R205 4.7k
R206 4.7k
100k
ON
OFF
R214 3k
R216 10M
C206 750p
R218 15k
C204 .1
C208 270P
R224 510k
R226 5.6k
-2.36V
C212 1/50
GND
R254 2.2M
C254 .001
R256 180
R258 180
C258 470p
SW201 MUTING
BALANCE
SW202 SUBSONIC
SW202 LOUDNESS
R202 39k
C202 .18
55k
MAIN VOLUME
C214 1/50
C463 1/50
C216 22/50 (BP)
R246 220 (.5W)
C222 270p
R278 9.1K
C224 .039
C226 .039
R282 82k
VR204 100k-C
R280 9.1k
R284 62
C228 .27
C230 .27
R276 1.2k
R248 6.2k (.5W)
C262 100p
C218 3p
C220 8p
R250 56k
R252 39k
ETC668-1
OFF
SOURCE
1 → 2
2 → 1
C911 470p
C912 470p
R320 820
BASS
TR215
TR219
TAPE 1
SOURCE
TAPE 2
REC 1
REC 2
L
R
R901 470k
R902 470k
SW101
AY5552K-1 x2
LE303
LE302
ETC668-7
R321 150
R322 150
PB1
PB2
SW104
REC OUT SELECTOR
SW103
MONITOR
TAPE
C101 .47 50
C181 1/50
+17.6V
+23.8V
R153 1k
R155 1k
R181 510
C141 .0047
R107 82
C909 68p
IC101 (1/2) M5219P
C121 1/50
R145 680
R151 47
R133 100
+16.2V
C131 100/10
R149 100
AUX
DAD
TUNER
PHONO-2
PHONO-1
TR101,103,105,107
:2SK369(GR)/(BL) -C
TP
R117 2.7M
IC103 μPC741C
R135 20k
R143 10k
C133 .01
+11.6V
C907 560p
C113 .0012
C107 1/50
C115 .018
C117 .068
C119 1000p
R105 100
R103 100 (.5W)
TR101
TR105
TR103
TR107
+0.1V
R119 3.9k
R121 47k
R123 47
R125 470k
R127 680k
R139 6.8k
-16.0V
VR101 100k
R147 1k
C135 .0068
C137 1/50
L-B
D101 HZ-30
C129 1/50
MC LOW
MC HIGH
MM
MC
C105 820p
R109 2k
R111 2k
R113 91 (.5W)
R101 47k
C111 1/50
R131 10 (.5W)
R129 4.7 (.5W)
R137 10k
C125 .01
R141 680
C127 1/50
C102 .47/50
C901 330p
C903 330p
C902 330p
C904 330p
C103 .47/50
C191 .47/50
C906 1200p
SW102
INPUT SELECTOR
C151 470/25
-12.0V
R115 470 (1W)
C185 .01
C139 1/50
C007 1/250
C006 1/250
C913 .01
R CHANNEL
IC101 (2/2)
M5219P
IC104
μPC741C
TR004 : 2SA1184 (O/Y)
TR005 : 2SC2824 (O/Y)
-23.6V

⚠ ▨ Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.

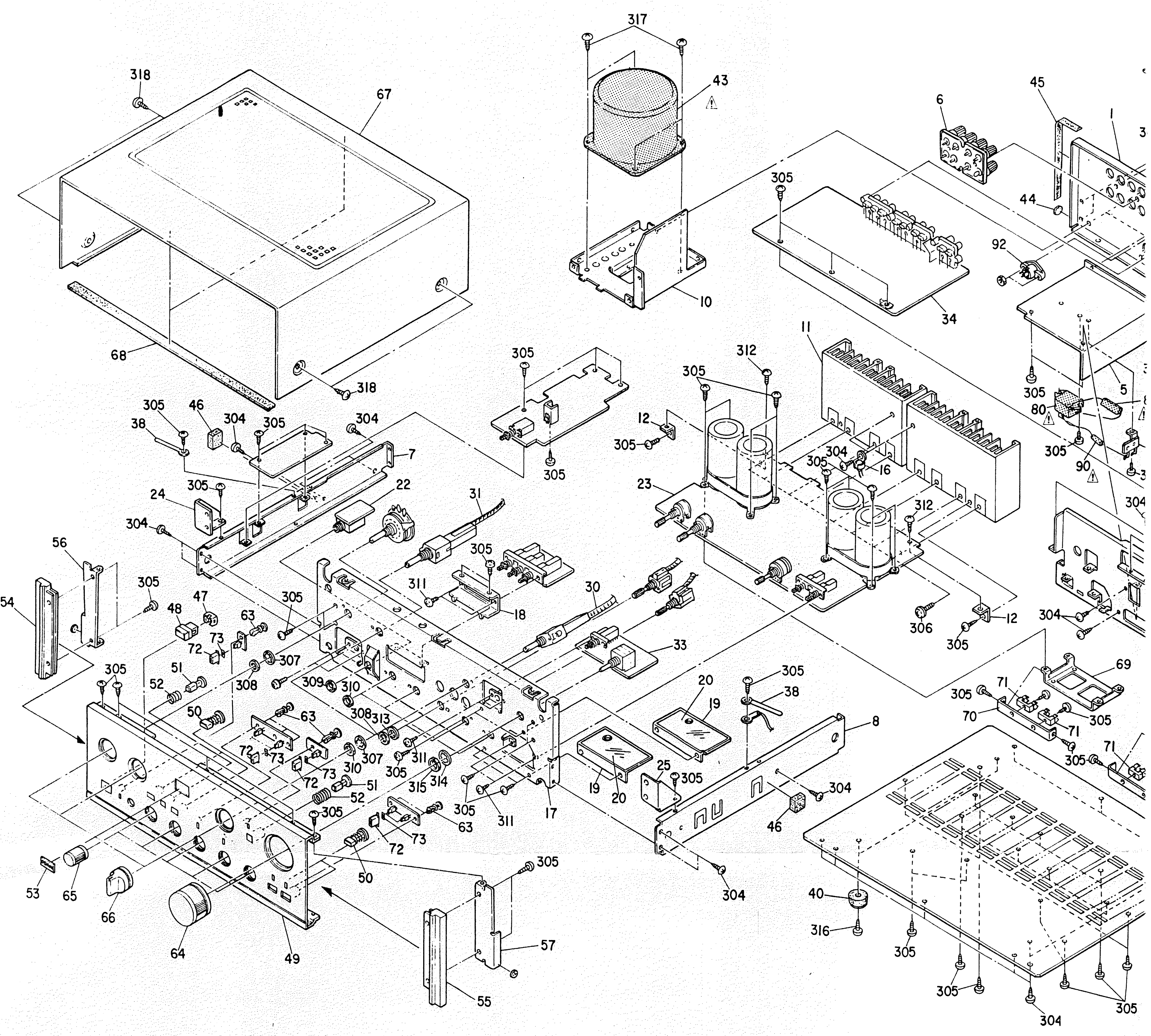


IC402: M5218P
TR402: 2SC1815 (BL)
IC404: M5218P
TR404: 2SC2705 (O/Y)
TR412: 2SC2238 (Y)
TR416: 2SC2581 LB (O/Y)
TR420: 2SC2581 LB (O/Y)
TR408 2SC2705 (O/Y)
TR410 2SA1145 (O/Y)
TR406: 2SA1145 (O/Y)
TR414: 2SA968 (Y)
TR418: 2SA1106 LB (O/Y)
TR422: 2SA1106 LB (O/Y)
+65.1V
+67.3V
-67.4V
+14.8V
-14.8V
-9.2mV
-17mV
+1mV
F402 6.3A
F404 6.3A
(+B-L)
(-B-L)
GND
(GND-L)
D432 V06B
D434 V06B
TP
ETC668-3
SW203
200Hz
400Hz
5kHz
2.5kHz
TONE
DIRECT
BASS
TREBLE
C601 1/100
C603 1/100
IC401 M5218P
IC403 M5218P
R CHANNEL
TR403
TR405
(+B-R)
(-B-R)
(GND-R)
TR302,303 :2SA1015 (Y)
TR304,305,306 :2SC1815 (BL)
PTH487A01BD222TS
P301
P302
TR308 2SC1815 (BL)
TR309 2SD667A
D304 HZ7B-3
D305 W03C
RL501
+48.7V
D307 W03C
TR310,311 :2SC1815 (BL)
ETC668-10
ETC668-2
TR006 2SC2238 (Y)
D004 1D2C-1
D003 HZ-16-2
ETC670
SW501 SP SELECT
SP-A
SP-B
L
R
D15 1S2076A
R16 1.2k (3W)
RL001
ETC668-6
PHONES JACK
SK001 4700P/400V AC
SW001
AC49.3V
D001 RB602 UF
T001
F1 T. 5A
R15 1.2Ω/10W RW98
C001 .01/630
SK002 .01 AC250V
AC220V 50Hz
ETC667-1
TR001 2SK373 (Y)
TR002 2SK373 (Y)
TR003 2SA1015 (Y)
D002 HZ24-2
+42.1V
-42.2V
C005 12000/71
C004 12000/71
C003 12000/71
C002 12000/71

NOTES:
ALL RESISTANCE VALUES IN OHM, K = 1,000 OHM, M = 1,000,000 OHM.
ALL CAPACITANCE VALUES IN MICROFARAD, P = MICRO-MICRO FARAD.
EVERY VOLTAGES AND CURRENTS IS MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

⚠ ▨ Mean
when necessary
by the manufac

EXPLODED VIEW OF CHASSIS AND CABINET



EXPLODED VIEW OF PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
1	1059014004	BACK PANEL
2	2050043109	GND TERMINAL
⚠3	2062002031	AC CORD
⚠4	4450020005	CORD BUSH
5	4140332100	SHIELD PLATE
6	2050144008	8P TERMINAL
7	4110400208	SIDE CHASSIS (L)
8	4110400211	SIDE CHASSIS (R)
9	4110399306	MAIN CHASSIS
10	4110402002	TRANS CHASSIS ASS'Y
11	4170212009	POWER RADIATOR
12	4410411104	PCB BRACKET
13	2730273024	TRANSISTOR 2SC2581LB(O)/(Y)
14	2710160021	TRANSISTOR 2SA1106LB(O)/(Y)
15	4150234007	INSULATING SHEET
16	2760289004	POSISTOR PTH487A01BD222TS
17	4110398307	FRONT CHASSIS
18	4410404001	SWITCH BRACKET
19	4140349009	SHIELD BRACKET
20	4150270003	INSULATING SHEET
21	2120243004	ROTARY SWITCH
22	ETC0668D6	H.P JACK UNIT
23	ETC0667D	TONE & POWER UNIT
24	4410419009	CORNER BRACKET (L)
25	4410420001	CORNER BRACKET (R)
26	2120239005	ROTARY REMOTE SW (INPUT SEL)
27	2120242005	ROTARY REMOTE SW (REC OUT)
28	2120241006	ROTARY REMOTE SW (TAPE MONITOR)
29	2120240007	ROTARY REMOTE SW (MM-MC)
30	4350085001	FLEXIBLE SLIDER (INPUT)
31	4350089007	FLEXIBLE SLIDER (REC OUT)
32	ETC0668D3	TONE UNIT
33	ETC0668D4	M. VOL & MUT SW UNIT
34	ETC0668D	INPUT & EQ. UNIT
35	ETC0670D	RECTIFIER UNIT
36	ETC0668D2	RELAY UNIT
☆37	4450033005	WIRE CLAMP BAND USED 23

Ref. No.	Part No.	Part Name & Descriptions
38	EP-6214	CORD HOLDER USED 3
39	1050577100	BOTTOM COVER
40	1040027107	FOOT
41	2032095188	2P CONNECTOR CORD USED 2
42	2030241031	1P CONTACT ASS'Y
⚠43	2334504005	POWER TRANS
44	1040034006	STOPPER USED 4
45	1220089088	SPACER USED 2
46	4610136014	RUBBER SHEET USED 2
47	1140056007	FLEXIBLE RING
48	1130515134	PUSH KNOB (A)
49	1441166201	FRONT PANEL ASS'Y
50	1130513233	PUSH KNOB (B) ASS'Y USED 4
51	1130514119	PUSH KNOB (C) ASS'Y USED 2
52	4630367106	COIL SPRING USED 2
53	1310113000	DENON MARK
54	1441155005	SIDE ESC. BAR (L)
55	1441156004	SIDE ESC. BAR (R)
56	4410406009	SIDE BRACKET (L)
57	4410407008	SIDE BRACKET (R)
58	ETC0667D2	LED UNIT
59	2036115006	4P CONNECTOR ASS'Y
60	ETC0667D3	LED UNIT
61	ETC0667D4	LED UNIT
62	ETC0667D5	LED UNIT
63	4770096007	PUSH RIVET USED 9
64	1120436100	KNOB (A)
65	1120435004	KNOB (B) USED 5
66	1120437002	KNOB (C) USED 3
67	1020172302	TOP COVER
68	1220064045	SPACER USED 2
69	4121498209	CONDENSER BRACKET
70	4410426005	FUSE BRACKET
⚠71	2020013101	FUSE HOLDER
72	4410412200	LED HOLDER USED 6
73	1220109007	BLIND SHEET USED 6
74	2050089008	7PW TERMINAL

Ref. No.	Part No.	Part Name & Descriptions
⚠☆75	2568023006	METALIZED CAP 0.01μF/250V
76	4150088004	INSULATING SHEET
☆77	5130654020	FUSE LABEL (T5.0A)
⚠78	2061015090	FUSE (5A)
☆79	5130716023	FTZ LABEL
⚠80	2149002006	RELAY (DC 24V)
⚠81	2432051007	WIRE WOUND RESISTOR 1.2 ohm 10W
82	EP-6549	1P W TERMINAL
⚠☆83	2531053003	CERAMIC CAP 0.01μF/500V
⚠84	[illegible]	CHEMICON 2000μF×2
⚠85	2061041036	FUSE (F6.3A) (F401~404)
☆86	5139119003	FUSE LABEL
87	4410423008	EARTH BRACKET
88	2050205002	2P W TERMINAL
89	2050069002	5P W TERMINAL
⚠90	2440154006	1.2k ohm 3W METAL OXIDE (NB)
⚠☆91	2760049011	1S2076A DIODE
92	2048059008	DIN JACK (5P)
93		
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PACKING & ACCESSORIES (not included EXPLODED VIEW)

a.	5040055007	CABINET SHEET
b.	5030447007	CUSHION (L,R)
c.	5019114005	CARTON CASE
d.	5119117009	INST. MANUAL
e.	5138295009	CONTROL CARD
f.	2090012006	SHORT PIN USED 2
g.		
h.		

Ref No.
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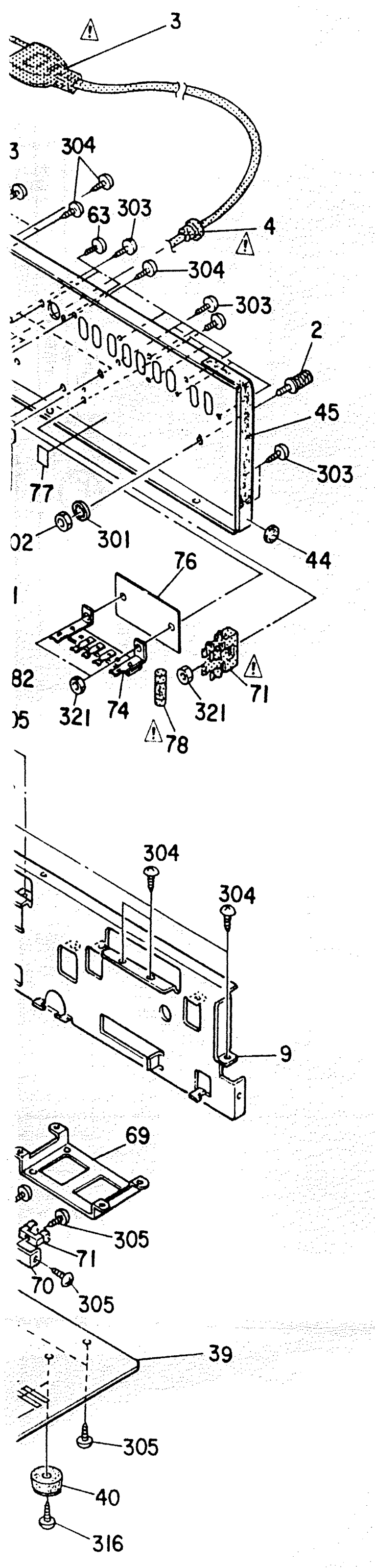
important safety item, which must be replaced, by a part specified or meeting the specification rer.



	Part No.	Part Name & Descriptions	Q'ty
		SCREWS AND OTHERS	
1	4753100004	TOOTH WASHER φ4	1
2	4770006000	NUT M4	1
3	4770064107	FIXING SCREW	8
4	4730354035	TAPPING SCREW (2) 3x8 (BLACK)	35
5	4730354019	TAPPING SCREW (2) 3x8	64
6	4700012022	PAN SCREW WITH W. SP 3x12	8
7	–	TOOTH WASHER φ7	2
8	–	NUT M9	3
9	–	NUT M12	1
0	–	NUT M7	5
1	4711303018	PAN SCREW	8
2	SC-06272	FIX. SCREW	2
3	–	WASHER φ9	2
4	–	TOOTH WASHER φ8	1
5	–	NUT M8	1
6	4730459011	TAPPING SCREW (2) 4x16	4
7	4700030017	TAPPING SCREW (2) 4x8	4
8	4734801005	TAPPING SCREW (TRUS) 4x8	4
9	4770088002	WASHER φ4.1	1
0	4700042005	PAN SCREW WITH SW 3x8 (BLACK)	3
1	4756006008	NUT M3	3
2	–	TOOTH WASHER φ9	1

☆ Marked not included EXPLODED VIEW.

DENON

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CABLE: NIPPONCOLUMBIA TOKYO

Printed in Japan

ADDENDUM LIST

Ref. No.	Part Name & Descriptions	Part No.			
		EA for Australia	EK for U.K.		
1	BAKC PANEL				
⚠ 3	AC CORD				
⚠ 4	CORD BUSH				
⚠43	POWER TRANS				